SINTESIS SENYAWA N-3,4-DIKLOROBENZOILSEFAKLOR DARI SEFAKLOR PADA pH 6,5-7,5

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ABSTRAK

Sintesis senyawa N-3,4-diklorobenzoilsefaklor dilakukan melalui reaksi asilasi gugus amina primer rantai samping sefaklor dengan 3,4-diklorobenzoil klorida pada suhu rendah (5-10^{o}C). Senyawa hasil sintesis berupa serbuk hablur berwarna kuning muda sebesar 73,94%. Kemurnian senyawa diperiksa secara kromatografi lapis tipis menggunakan fasa diam silika gel F_{254} dan fasa gerak metanol : kloroform (4 : 6), metanol : n-propanol (1 : 9), metanol : isopropanol (3 : 7), dan penampak noda lampu UV λ 254 nm. Senyawa N-3,4-diklorobenzoil-sefaklor memberikan satu noda berwarna ungu sama seperti noda sefaklor namun dengan harga R_f lebih besar. Hasil pemeriksaan titik leleh senyawa hasil sintesis lebih rendah (169^{o}C) daripada sefaklor (199^{o}C). Pada pemeriksaan dengan spektroskopi ultraviolet, inframerah, resonansi magnetik inti proton, menunjukkan telah terbentuk N-3,4-diklorobenzoilsefaklor.

Kata kunci: N-3,4-diklorobenzoilsefaklor, Sefaklor, Asilasi

ABSTRACT

The acylation process between primary side chain of cefaclor and 3,4-dichlorobenzoil chloride, which occur at low temperature (5-10^{o}C) will result in the final product, that is N-3,4- dichlorobenzoilcefaclor (73,94%). The product is a substance which has characteristic of pale yellow color in the form of crystalline powder. It's purity was checked by doing examination method employs thin layer chromatography with silica gel 60 F_{254} as stationary phase and the mobile phases are methanol : chloroform (4 : 6), methanol : n-propanol (1 : 9), methanol : isopropanol (3 : 7). Using UV λ 254 nm lamps, the N-3,4-dichlorobenzoilcefaclor gave one purple spot as same as cefaclor but it gave higher R_f. The average value of product melting point is lower (169^{o}C) than cefaclor (199^{o}C). Finally, the examination of spectroscopy ultraviolet, infrared and proton nuclear magnetic resonance showed that N-3,4-dichlorobenzoil-cefaclor has been formed.

Keyword: N-3,4-dichlorobenzoilcefaclor, Cefaclor, Acylation